

COMMENTS CONCERNING A PROPOSED NPDES PERMIT FOR
THE P. H. GLATFELTER PULP AND PAPER MILL
IN SPRING GROVE, YORK COUNTY, PENNSYLVANIA

SUBMITTED BY THE CODORUS MONITORING NETWORK, INC.
OF DOVER, PA

FILED WITH THE PENNSYLVANIA DEPARTMENT OF
ENVIRONMENTAL PROTECTION ON MAY 14, 1998

Codorus Monitoring Network, Inc.
60 New York Road
Dover, PA 17315
(717) 308-0070 (voice/fax)

Prepared by Alex J. Sagady & Associates
PO Box 39, East Lansing, MI 48826
(517) 332-6971; (517) 332-6971 (fax); ajs@sagady.com

(May 16, 1998 version with minor stylistic, formatting and typographic corrections.)

TABLE OF CONTENTS

1	Introduction	1
2	The Record Indicates that Codorus Creek is Not Attaining its Designated Uses for Warm Water Fishery and Recreation and Requisite Aquatic Biodiversity	1
3	Issues Relating to Poly-Chlorinated Dibenzo Dioxins (PCDD) and Poly-Chlorinated Dibenzo Furans (PCDF)	2
3.1	The Continued Use of Chlorine Bleaching at the Glatfelter Site Justifies Significant Concerns about PCDD/PCDF Process Generation, Effluents, Ecological and Human Health Effects	2
3.2	The Permit Should be Amended to Require Effluent Limitations, Testing and Monitoring Requirements Using TCDD Toxic Equivalents	3
3.3	A Water Quality-Based Effluent Limitation Should be Required for 2,3,7,8 Tetrachloro-dibenzo furans	3
3.4	PADEP's February 28, 1998 Water Quality Protection Report does not Provide Adequate Explanation of the Basis for the TCDD Effluent Limitation, and such Documentation is Required	3
3.5	Mandatory Fish PCDD/PCDF Monitoring Should be Incorporated in the Proposed Permit	4
3.6	Downstream Effects of PCDD/PCDF Effluents on Threatened Wildlife and Migratory Birds is a Significant Concern	4
3.7	The Proposed Permit Should Incorporate a Study of Endocrine Disruption Effects in Fish and Mammals Downstream of the Glatfelter Discharge	5
4	Issues on Color Effluent Limitations and Color Water Quality Standard Compliance ...	6
4.1	Issues of Regulatory Effluent Limitations and Mandatory Technology-Based Requirements for Color Pollution	6
4.1.1	The In-Stream Limitations of the Proposed Permit and the In-Stream Provisions of the May 16, 1989 Amended Consent Adjudication are not Effluent Limitations for Color Discharges from the Glatfelter facility ..	6
4.1.2	The Clean Water Act and Federal Regulations Require that Color be Controlled in an NPDES Permit by an Effluent Limitation Reflecting Best Available Technology and that the Expression of this Determination is a Numerical Effluent Limitation that Must be Applied in the Glatfelter Permit	7

4.1.3	Glatfelter’s Flow Augmentation Scheme and Refusal to Accept any Effluent Limitations for Color Constitute an Effort to Evade Technology-Based Effluent Limitations	9
4.1.4	Issuance of the PADEP Proposed Permit for Glatfelter would Violate the Clean Water Act’s Requirement for Enforceable Effluent Limitations for Best Available Technology to Control Color	9
4.1.5	The Glatfelter Facility has not made a Showing and/or Request to Obtain a Variance from BAT Technology Requirements under the Clean Water Act and the Circumstances do not Justify such a Variance from BAT Technology-Based Effluent Limitations	11
4.1.6	PADEP Should Not Incorporate a BAT Effluent Limit in the Glatfelter Permit in Response to this Comment and Subsequently Issue the Permit without Reopening the Public Comment Period on the Issue of this Important Determination	12
4.2	Issues of the Application of Required Water Quality-Based Effluent Limitations for Color Discharges	12
4.2.1	Codorus Creek Presently has Violations of Pennsylvania Water Quality Standards for Color	12
4.2.2	PADEP’s Selection of “True Color” Rather than “Apparent Color” Measurement Methods and Methodologies Conflicts with the Pennsylvania Water Quality Standards and Virtually Guarantees Continued Public Dissatisfaction with Color Reduction Performance Goals for Glatfelter and Codorus Creek	13
4.2.3	EPA Regulations Require Water Quality-Based Effluent Limits for Color in the Proposed Permit over and above BAT Technology-Based Effluent Limits	14
4.2.4	Flow Augmentation and Color Issues	16
4.2.5	Glatfelter’s Failure to Employ State of the Art Technological Advances and PADEP’s Failure to Incorporate Any Effluent Limitation in the Proposed Permit Disqualifies the Company from Obtaining Pennsylvania Variances to Water Quality Base Effluent Limitations through the NPDES Permit Process	16
4.2.6	Similarly, Glatfelter is Not Entitled to a Federal Clean Water Act Variance from Compliance with Applicable Water Quality-Based Effluent Limitations and Water Quality Standards under 40 CFR §131.10(g)(6), 40 CFR §131.13, 40 CFR §122.21(m)(5) and 33 USC §1312(b)(2)(A) . . .	20

4.3	The May 16, 1989 Amended Consent Adjudication on Color Constitutes a <i>De-Facto</i> Modification of the Previously Issued Permit Without Following the Procedures for Amending an NPDES Permit and Without Public Notice and Public Participation, as well as a <i>De Facto</i> Modification of Pennsylvania Water Quality Standards	22
5	Issues of the Adequacy of PADEP Technology Assessment on Effluent Control and Process Technology and Glatfelter’s Presently Installed Effluent Controls, Process Technology and Best Management Practices	23
5.1	PADEP Failed to do a Contemporaneous <i>de novo</i> Review of Color-Related BAT Technology, Process and Effluent Control Issues and Best Management Practices and Failed to Make Specific Findings on such Matters on the Record	23
5.2	Glatfelter’s Compliance with the Amended Consent Adjudication has been Marked by Dilatory Efforts and Delaying Tactics	25
5.3	Glatfelter is Not Employing Important Technological Effluent Control and Process Innovations that would Lead to Enhanced Color Reduction, PCDD/PCDF Minimization, Control of AOX and COD, and other Reduced Environmental and Toxic Impacts on Codorus Creek	25
5.4	PADEP and Glatfelter Analysis on the Color Reduction Technology Issue has Failed to Recognize Important Recent Developments in Color Reduction at the Champion International Canton NC Facility	29
5.5	Conflicting Information Exists in the Record as to Claims for Color Reduction Achievement at the Glatfelter Facility	30
5.6	PADEP and Glatfelter Should Change to Consistent Use of Mass Per Time Units for Characterizing Color Reduction Inventory and Management Plans	32
6	The AOX Limits of the Proposed Permit are in Error	32
7	Glatfelter Should be Required to Implement a Flow Minimization and Internal Water Conservation Plan to Limit Effluent Flows	32
8	The Proposed Permit Impermissibly Allows Backsliding of Effluent Limitations by Changing BOD5 Requirements to CBOD5 Limits	32
9	PADEP Should Incorporate a BAT Requirement for Chemical Oxygen Demand Given the Nature of Glatfelter’s Effluents and the Significance of COD for Toxic Releases	34
9.1	Glatfelter’s Effluents of Chemical Oxygen Demand are Significant	34
9.2	Contrary to Assertions in the February 28, 1998 PADEP Water Quality Protection Report, EPA Strongly Urges State Adoption in NPDES Permits of Chemical Oxygen Demand Limitations as the Best Single Indicator of Aquatic	

	Toxicants in Bleached Kraft Pulp Mill Effluent	34
9.3	Water Quality Protection Analysis to Protect Downstream Dissolved Oxygen Cannot be Credible or Protective Unless Both BOD5 and COD5 are Considered Together	35
9.4	Control and Process Change Technology Exists to Control Chemical Oxygen Demand	36
9.5	PADEP Should Set Effluent Limitations and More Intensive Monitoring Requirements for Chemical Oxygen Demand in the Glatfelter NPDES Permit ..	37
10	Issues Relating to Heated Effluents	38
11	Chemical Additives	38
12	Issues Relating to Total Suspended Solids, Sediment Deposition and Water Quality Standards	39
13	Issues Related to Failure by Glatfelter to More Completely Characterize all Expected Toxic Features of their Wastewater Effluent	40
14	Issues Relating to the Sewering of Maintenance-Related Process Fluid Releases	41
15	Issues Relating to Whole Effluent Toxicity Testing	41
16	Endangered Species Act Considerations	42
17	Issues Relating to Monitoring and Reporting Requirements	42
18	Issues Concerning the Need for Additional Effluent Limitations in the Glatfelter Permit	42
19	Flow Augmentation Schemes Hurt Water Quality and Recreational Values in Lake Marburg and Effectively De-emphasize Pollution Prevention Approaches	43
20	The Glatfelter Permit Should Contain Provisions Requiring Mitigation of Water Intake Fisheries Losses and Stipulated Payment for Natural Resources Damages	44
21	The Glatfelter Permit Should be Amended to Incorporate Adopted Pennsylvania Narrative and Numeric Water Quality Standards	45
22	PADEP Should Retain the General Duty Clause	45
23	Procedural Issues	46
23.1	PADEP Failed to Properly Explain the Decision at hand in Public Notice and Fact Sheet Documents and Failed to Indicate Proceedings that Either Granted or	

	Renewed Variance Decisions	46
23.2	PADEP has Failed to Issue a Complete and Detailed Responsiveness Summary on Past Public Comment Periods; this Error Should be Remedied for Past Hearings and a Detailed Responsiveness Summary Should be Provided for this Present Comment Period	46
23.3	PADEP’s Delay in Permit Renewal Proceedings Constitutes an Abuse of Provisions Allowing Continued Effectiveness of Previously Issued Expired Permits	46
23.4	PADEP Should Not Grant the Glatfelter Request to Allow a Selective Reopening of the Comment Period Only for the Purpose of a Company Response to Public Comments	47
23.5	The Effective Date of the Permit should be Stayed for a Period of 30 Days and PADEP Should Incorporate Procedures Relating to Potential Review of the Permit	47

1 Introduction

This document is the comment of Codorus Monitoring Network, Inc. in the Pennsylvania Department of Environmental Protection (PADEP) proceeding on renewal of the NPDES Permit for the P.H. Glatfelter Company Pulp and Paper Mill in Spring Grove, PA. Glatfelter seeks a renewed NPDES permit since their previous permit expired in 1989. PADEP has issued a proposed permit, held a public hearing and is seeking public comment on the proposed permit. Codorus Monitoring Network, Inc. submits this May 13, 1998 public comment for filing in time for the May 14, 1998 deadline for public comments. The comment is also being filed with the U. S. Environmental Protection Agency Region III office in Philadelphia.

Codorus Monitoring Network, Inc. was formed to establish a database of water quality indicators for Codorus Creek and to advocate improvements in water quality with the goal of Codorus Creek being a valuable natural asset to York County. Our goal for Codorus Creek is to gain a healthy environment for fish and wildlife and to recover this stream for important recreational opportunities for citizens of the region.

Of critical current importance is the need to ensure better control of water pollution entering Codorus Creek in order to gain its environmental restoration for the values cited above. The P.H. Glatfelter company's wastewater discharge has significant effects on the Codorus Creek receiving waters. As a result, Codorus Monitoring Network, Inc. seeks significantly more stringent regulation of the P. H. Glatfelter wastewater discharge through the present NPDES permit renewal proceeding.

2 The Record Indicates that Codorus Creek is Not Attaining its Designated Uses for Warm Water Fishery and Recreation and Requisite Aquatic Biodiversity

Repeated statements by PADEP Aquatic biologists and other indicate that Codorus Creek is presently in a degraded condition because of pollutants its receives. A study indicated that the predominate fish biomass production in the creek consist of rough fish (carp and bullhead) for a significant length of the creek. Studies conducted by the Glatfelter Company indicate that pollution tolerant carp constitute the following percentages of fish biomass downstream closest to the Glatfelter discharge:

Station	F5	F6	F7	F8	F9	F10
Percent carp	66	85	60	98	80	78

When pollution-tolerant bullhead are added, the percentages are even greater.

Other adverse conditions include the destruction of benthic and macro-invertebrate communities from deposition of sediments on stream bottoms and slack areas and from other less well characterized causes. We are convinced that present conditions on the creek do not support a balanced and diverse population of aquatic life.

In addition, color and odor in the creek arising from pollution discharges is presently interfering with creek-related outdoor recreation that should be a use preserved by the existing water quality designation of the creek. Additionally, these conditions have arisen to the point where pollution in the creek presents a common law nuisance and such pollution is interfering with community planning, social well-being and economic development in the Codorus Creek watershed.

Environmental restoration of Codorus Creek through significantly more stringent regulation of pollution inputs to the creek from the Glatfelter Company is needed to achieve this environmental restoration. In addition, remedial action measures concerning pollutants already in the creek may need to be taken to further expedite the environmental restoration of this important York County natural resource.

3 Issues Relating to Poly-Chlorinated Dibenzo Dioxins (PCDD) and Poly-Chlorinated Di-Benzo Furans (PCDF)

3.1 The Continued Use of Chlorine Bleaching at the Glatfelter Site Justifies Significant Concerns about PCDD/PCDF Process Generation, Effluents, Ecological and Human Health Effects

Glatfelter's continued use of chlorine in the bleaching process justifies significant, continued concern about release by the mill of poly-chlorinated dibenzo(p)dioxins and poly-chlorinated dibenzo furan compounds. Even the elimination of molecular chlorine bleaching with 100% substitution by chlorine dioxide would still merit significant concern.

PADEP and EPA scrutiny of the effluents, sediments and fish tissue downstream of this facility should continue more intensively than it has previously, especially in light of Glatfelter's continued 30% chlorine bleaching practices and because of the likelihood of past deposition in the Codorus Creek watershed of long term, bioaccumulative, refractory, xenobiotic compounds typically found in bleached kraft mill effluent.

Effluent monitoring requirements for PCDD/PCDF should require Glatfelter to use the lowest detection limit technically feasible in effluent monitoring determinations and effluent limitations should be set for no detectable effluents of 2,3,7,8 TCDD and 2,3,7,8 TCDF.

3.2 The Permit Should be Amended to Require Effluent Limitations, Testing and Monitoring Requirements Using TCDD Toxic Equivalents

Testing, monitoring and effluent limitations in the permit should, across the board, be recast in the form of 2,3,7,8 tetra-chloro-dibenzo(p)dioxin toxic equivalency factors (TEQ). It is quite clear from the literature that 2,3,7,8 TCDD is not the only toxic PCDD/PCDF congener and that other congeners play a role in the remarkable toxicity of this group of compounds.

In addition, TCDD/TCDF and other congeners should be tested at least once per month on the wastewater effluent outfall 001 as long as there is any molecular chlorine bleaching taking place at the Glatfelter mill

3.3 A Water Quality-Based Effluent Limitation Should be Required for 2,3,7,8 Tetra-chloro-dibenzo furans

In the event that PADEP/EPA do not recast all dioxin-related effluent limitations in the form of 2,3,7,8-TCDD toxic equivalents, at the very least, the permit should be amended to provide for a water quality based effluent limitation for the highly toxic 2,3,7,8 tetra-chloro-dibenzo furan, which is generally regarded as having about one tenth of the toxicity of 2,3,7,8 tetra-chloro-dibenzo(p)dioxin.

The current effluent limit at internal monitoring point outfall 101 is 31.9 pg/l for 2,3,7,8 tetra-chloro-dibenzo furan. This is not a water quality-based effluent limitation since it is precisely the same as the technology-based effluent limit contained in the cluster rule. (See 63 FR 18653 Subpart B effluent guideline limit for TCDF in table).

In the event that PADEP/EPA do not recast dioxin limits as toxic equivalents, a water quality based effluent limitation should be set based on target stream concentrations that limit TCDF emissions.

3.4 PADEP's February 28, 1998 Water Quality Protection Report does not Provide Adequate Explanation of the Basis for TCDD Effluent Limitations, and such Documentation is Required

Federal regulations applicable to the NPDES program at 40 CFR §124.56 require documentation of the calculations and assumptions used to derive effluent limitations. The current fact sheet and the February 28, 1998 Water Quality Protection report do not comply with this requirement as to the basis for the TCDD and TCDF effluent limitations. For example, there is no information in these documents that clearly

identifies the basis for the final determination in regard to such matters as the bioaccumulation factor, target fish tissue concentrations and target risk levels for human fish consumption. There is no clear indication of whether target fish tissue concentrations are intended to protect fish-eating birds and mammals in the Codorus Creek watershed. There is no risk assessment provided on the consumption of fish by subsistence fish consumers or the potential risk of eating Codorus fish to children or women of childbearing years. There is no clear indication of whether target fish tissue concentrations are based on FDA guidelines or on other considerations.

All of the above considerations are essential to understanding the basis of final PCDD/PCDF effluent limitations provided for the Glatfelter permit.

3.5 Mandatory Fish PCDD/PCDF Monitoring Should be Incorporated in the Proposed Permit

Because of the continued use of chlorine-related bleaching (particularly the 30% molecular chlorine bleaching) and because of the likely past discharge of refractory, bioaccumulative dioxin and dioxin-like compounds by the Glatfelter mill, fish testing requirements should be incorporated as a legal requirement of the proposed permit.

The fish testing provided should determine total 2,3,7,8 TCDD toxic equivalents found in fish tissue on a whole fish basis. The use of fat-trimmed fillets for TCDD TEQ fish testing is likely to underestimate the potential human exposure that may be identified in such fish testing programs because of poor education of fish consumers in toxic mitigation measures in fish preparation for human consumption.

A larger number of fish should be tested in future testing programs than has been provided in past programs. In addition, target fish tissue criteria for the posting of fish advisories on the Codorus should be lower than FDA guidance.

We also note a recent draft fish testing report showing high results in at least one fish at 12.5 ppb TCDD, which would justify resumption of dioxin fish contaminant warnings on Codorus Creek.

3.6 Downstream Effects of PCDD/PCDF Effluents on Threatened Wildlife and Migratory Birds is a Significant Concern

Codorus Monitoring Network adopts the comments of the U.S. Fish and Wildlife Service as to dioxin/furan issues by reference to USFWS letter correspondence in the record dated December 9, 1996, April 25, 1997, May 6, 1997, May 29, 1997 and January

22, 1998; and the April 23, 1998 public hearing testimony of USFWS.

In particular, we endorse the overall approach of USFWS that advocates that wildlife PCDD/F tissue concentrations for wildlife that consume Codorus Creek fish ought to be fully protective of these wildlife from adverse biological effects, and that water quality based effluent limits for PCDD/F toxic equivalents be derived to ensure that such target wildlife PCDD/F tissue concentrations are met. At present, it does not appear that the permit as proposed will provide such protection.

3.7 The Proposed Permit Should Incorporate a Study of Endocrine Disruption Effects in Fish and Mammals Downstream of the Glatfelter Discharge

The proposed permit should incorporate a fish testing requirement to determine whether endocrine disruption effects are occurring in fish downstream of the Glatfelter mill. These types of effects have occurred downstream of other such mills. Over 300 different chemical compounds occur in bleached kraft mill effluent and some of these are suspected of causing endocrine disruption effects.

Existing scientific literature on bleached kraft mill effluent have identified the following effects in studies of aquatic impacts of bleached kraft mill effluent:

- Lower fish egg production
- Increased numbers of fish with male secondary sexual characteristics
- Overall changes in the fish gender balance
- Induction of increased mixed-function oxygenase (MFO) activity
- Reduced plasma sex steroid levels
- Decreased egg and gonad size
- Increased age to maturation
- Decreased plasma testosterone levels in male fish
- Decreased beta-estradiol levels in females

Glatfelter should be required to determine whether these effects are occurring in fish downstream on the Codorus Creek and such requirements are consistent with narrative water quality standards that encourage a balanced proportion and biodiversity of downstream aquatic organisms as a protected stream characteristic and use.

- 4 Issues on Color Effluent Limitations and Color Water Quality Standard Compliance
- 4.1 Issues of Regulatory Effluent Limitations and Mandatory Technology-Based Requirements for Color Pollution
- 4.1.1 The In-Stream Limitations of the Proposed Permit and the In-Stream Provisions of the May 16, 1989 Amended Consent Adjudication are **not Effluent Limitations** for Color Discharges from the Glatfelter facility

The proposed permit and the Amended Consent Adjudication (hereafter ACA) contain in-stream limitations for color, but these cannot be regarded as “effluent limitations.”

The Clean Water Act defines “effluent limitation” as:

“The term ‘effluent limitation’ means any restriction established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are **discharged from point sources** into Navigable waters, the waters of the contiguous zone, or the ocean, including schedules of compliance.” 33 USC §1362(11) (emphasis added)

Pennsylvania regulations at 25 Pa Code 92.1 provide a very similar definition to the definition in the federal Act for “effluent limitation” which does not provide the character that an in-stream limitation can be considered as an “effluent limitation.”

Federal regulations at 40 CFR §122.2 define “effluent limitations” as:

“any restriction imposed by the Director on quantities, discharge rates, and concentrations of ‘pollutants’ which are ‘**discharged**’ from ‘point sources’ into ‘waters of the United States,’ the waters of the ‘contiguous zone,’ or the ocean.”

Both of these definitions rule out considering in-stream limitations as effluent limitations because these in-stream limitations do have the character of directly being a measure of “quantities, rates, and concentrations” of pollutants “discharged” from a “point source.” Instead, the in-stream limitations of the permit and the ACA are a measure of stream water quality, its relation to the Pennsylvania water quality standards for color in the Codorus Creek and the amount of stream color deterioration that the PADEP deems to allow under the circumstances.

Moreover, the in-stream color limitations cannot be considered “effluent

limitations” reflecting control technology requirements binding on Glatfelter since the in-stream indications of color reflect upstream natural color and the use of flow augmentation for dilution of effluents.

The distinction of an “effluent limitation” being different and distinguished from an in-stream limitation has been litigated and an in-stream limitation cannot be considered as an “effluent limitation.” See, for example, Save Our Bays and Beaches, et al v. City and County of Honolulu, et al, 904 F.Supp. 1098, 1994; Niagara of Wisconsin Paper Corporation v. Wisconsin Department of Natural Resources, 268 N.W.2d 153 (1978); Crown Simpson Pulp Company v. Costle, 599 F.2d 897 (1979).

Neither the proposed PHG permit, nor the ACA contain either interim or effective final effluent limitations. The so-called “final” effluent limitation contained in the permit does not have a final effective date. By the proposed permit and the ACA there is utterly no assurance or enforceable understanding that PHG will ever comply with an effluent limitation for color by a date certain, if ever, because neither the permit, nor the ACA, establish a date by which the so-called “final” color effluent limitation is effective and controlling.

4.1.2 The Clean Water Act and Federal Regulations Require that Color be Controlled in an NPDES Permit by an Effluent Limitation Reflecting Best Available Technology and that the Expression of this Determination is a Numerical Effluent Limitation that Must be Applied in the Glatfelter Permit

Color discharges are non-conventional pollutants which are required to be controlled by effluent limitations reflecting...

“best available technology economically achievable for such category or class, which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator...” 33 USC §1311(b)(2)(A)

EPA has issued regulations requiring that best available technology (BAT) be determined by best professional judgement (BPJ) as it is applicable to color as a non-conventional pollutant; the rule specifies:

“For all pollutants which are neither toxic nor conventional pollutants, effluent limitations based on BAT....for permits issued on a case-by-case (BPJ) basis under section 402(a)(1)(B) of the Act after February 4, 1987 establishing BAT effluent limitations compliance is required as expeditiously as practicable but in no case later than three years after the date such limitations are established and in no case

later than March 31, 1989.” 40 CFR §125.3(a)(2)(v)(B)

EPA further requires that best professional judgement decisions be made in the following way:

“Technology-based treatment requirements may be imposed through one of the following three methods..... On a case-by-case basis under section 402(a)(1) of the Act, to the extent that EPA-promulgated effluent limitations are inapplicable. The permit writer shall apply the appropriate factors listed in §125.3(d) and shall consider: (I) The appropriate technology for the category or class of point sources of which the applicant is a member, based upon all available information; and (ii) Any unique factors relating to the applicant.” 40 CFR §125.3(c)(2)

Permit writers must consider the following in making such best professional judgement decisions:

“In setting case-by-case limitations pursuant to §125.3(c), the permit writer must consider the following factors:”

“(3) For BAT requirements:

- (i) The age of equipment and facilities involved;
- (ii) The process involved;
- (iii) The engineering aspects of the application of various types of control techniques;
- (iv) Process changes;
- (v) The cost of achieving such effluent reductions; and
- (vi) Non-water quality environmental impact (including energy requirements).” 40 CFR §125.3(d)(3)

Accordingly, any permit for the discharge of color from Glatfelter must provide, at a minimum, for specific effluent limitations reflecting Best Available Technology (BAT) determined by Best Professional Judgement (BPJ).

PADEP permit writers cannot simply review effluent control technology and industrial processes in place at the Glatfelter facility and determine that these constitute BAT as determined by best professional judgement. Regulations applicable to the BAT decision making process require that BAT determinations be expressed as numerical effluent limitations (See definitions stated above for the definition of “effluent limitation.”) In addition, EPA regulations clearly require that a BAT technology determination doesn’t have anything to do with conditions of water quality compliance:

“Technology-based treatment requirements are applied prior to or at the point of discharge.” 40 CFR §125.3(e)

In summary, the Federal Clean Water Act and EPA regulations binding on PADEP and Glatfelter require that Glatfelter use best available technology to control its discharges of color pollution, that BAT requirements are expressed as numerical effluent limits and that a requirement for the permit and the applicant to conform to the BAT requirement must be immediately effective upon issuance by PADEP.

4.1.3 Glatfelter’s Flow Augmentation Scheme and Refusal to Accept any Effluent Limitations for Color Constitute an Effort to Evade Technology-Based Effluent Limitations

Glatfelter’s aggressive defense of using larger 7 day, 10 year low flow numbers in water quality calculations based on their ability to release guaranteed flows from Lake Marburg, their astonishing argument that 1973 and 1989 consent order agreements should bind all future parties for an indefinite period of time and their insistence at avoiding end-of-pipe effluent limitations for color in their discharge, all converge to illustrate a key point.

Essentially, Glatfelter is attempting to substitute dilution for the required technology-based effluent limitations and controls. This practice is specifically prohibited by EPA regulations:

“(f) Technology-based treatment requirements cannot be satisfied through the use of ‘non-treatment’ techniques such as flow augmentation and in-stream mechanical aerators.” 40 CFR §125.3(f)

Since the proposed permit doesn’t have any effective effluent limitation, either in the interim or at a date certain in the future, allowance for upstream flow augmentation cannot take the place of specific BAT-compliant effluent limitations for color.

4.1.4 Issuance of the PADEP Proposed Permit for Glatfelter would Violate the Clean Water Act’s Requirement for Enforceable Effluent Limitations for Best Available Technology to Control Color

PADEP’s proposed permit for Glatfelter fails to provide any immediately effective “effluent limitation” that reflects the immediate effectiveness of the requirement to provide best available technology (BAT) to control color effluent discharges in an NPDES permit. As such, issuance of the proposed permit would violate binding BAT

technology requirements for NPDES permits since no numerical effluent limitation is required by the permit.

The provision of a “final” effluent limitation for color discharges contained in the permit (85 Pt-Co units for average monthly, 170 Pt-Co units for maximum daily and 212 Pt-Co units for instantaneous maximum) cannot rescue the permit from being violative of the Federal Clean Water Act because the alleged “final” effluent limitation does not reflect a requirement that can be enforced at any time during or after the term of the permit in the absence of a specific requirement for an effectiveness date. As a result, the so-called “final” effluent limitation cannot be considered as an “effluent limitation” within the meaning of the “schedule of compliance” provision in the definition of “effluent limitation” in the Clean Water Act (at 33 USC §1362(11)) since the definition of “schedule of compliance” requires enforceable interim and final requirements:

“The term “schedule of compliance” means a schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation, other limitation, prohibition, or standard.” 33 USC §1362(11)

PADEP’s complete failure to incorporate numerical color discharge effluent limitations that are immediately binding on Glatfelter, or are otherwise binding on Glatfelter at a firm later date, renders any action taken to issue the proposed permit as violating the requirement of the Clean Water Act that ensures that dischargers of color as a non-conventional pollutant are subject to BAT requirements.

Finally, issuance of the permit without a numeric effluent limitation for color reflecting BAT would violate 33 USC §1312(c) which provides:

“The establishment of effluent limitations under this section [water quality based effluent limitations] shall not operate to delay the application of any effluent limitation established under section 1311 of this title.”

In the present case, PADEP is attempting to use a so-called water quality based “final effluent limit” which will never be achieved to delay the imposition of numerical effluent limitations reflecting BAT determined by best professional judgement.

4.1.5 The Glatfelter Facility has Not Made a Showing and/or Request to Obtain a Variance from BAT Technology Requirements under the Clean Water Act and the Circumstances do Not Justify such a Variance from BAT Technology-Based Effluent Limitations

While it is possible to obtain a federal variance from BAT technology requirements under 33 USC 1311(c) and (g), and pursuant to 40 CFR §125.3(a)(2)(v), a source may not have more than a 3 year extended time for compliance (and it is possible that a source may not gain any extended compliance date after March 31, 1989).

Glatfelter has not made an explicit written request for a BAT variance or modification of compliance timetable request in the present permit proceeding. Under 33 USC 1311(c), such variance/modification requests can only be granted:

“...upon a showing by the owner or operator of such point source satisfactory to the Administrator that such modified requirements (1) will represent the maximum use of technology within the economic capability of the owner or operator; and (2) will result in reasonable further progress toward the elimination of the discharge of pollutants.” 33 USC §1311(c)

Glatfelter has made no 33 USC §1311(c) showings in their application. In particular, where Glatfelter is relying on flow augmentation to assist in meeting an in-stream limitation and where there is no enforceable effluent limitation for color, Glatfelter could not make a satisfactory showing of “reasonable further progress towards elimination” of color discharges.

Further, under 33 USC §1311(g)(2)(C), Glatfelter must show that the modification of color requirements will meet the following condition:

“Such modification will not interfere with the attainment or maintenance of that water quality which shall assure protection of public water supplies, and the protection and propagation of a balanced population of shellfish, fish, and wildlife, and allow recreational activities, in and on the water and such modification will not result in the discharge of pollutants in quantities which may reasonably be anticipated to pose an unacceptable risk to human health or the environment because of bioaccumulation, persistency in the environment, acute toxicity, chronic toxicity (including carcinogenicity, mutagenicity or teratogenicity), or synergistic propensities.”

It is our view that Glatfelter could not make adequate showings under a number of the statutory criteria articulated above.

4.1.6 PADEP Should Not Incorporate a BAT Effluent Limit in the Glatfelter Permit in Response to this Comment and Subsequently Issue the Permit without Reopening the Public Comment Period on the Issue of this Important Determination

After nine years of delay, PADEP has fundamentally erred in some of the most significant required decision making in regard to the imposition of immediately effective, federally binding BAT requirements in the form of a proposed color effluent limitation on the Glatfelter facility. The level of performance required on the facility as reflected in any such effluent limitation is a matter of deep public concern. The failure of PADEP to make a decision concerning BAT technology requirements with its associated numerical effluent limitation requirement deprives the public of a meaningful opportunity to comment on the required decision that much be made.

As a result, we ask that any attempt by PADEP to remedy its errors concerning its failure to set either an interim and/or a final numerical color effluent limitation reflecting BAT be the subject of a renewed public comment period after its decision is announced in draft and/or proposed form.

4.2 Issues of the Application of Required Water Quality-Based Effluent Limitations for Color Discharges

4.2.1 Codorus Creek Presently has Violations of Pennsylvania Water Quality Standards for Color

At the present time, Codorus Creek water quality doesn't comply with the Pennsylvania water quality standard requirements for color. This fact is acknowledged by PADEP, U.S. EPA Region III and Glatfelter, and has been the subject of numerous public comments and complaints by officials of the City of York.

A review of in-stream measurements from recent Glatfelter DMRs yields the following data showing violation of the Pennsylvania color water quality standards:

Month	Monthly Average	Daily Maximum
01/97	71	100
02/97	64	80
03/97	59	125
04/97	87	160
05/97	126	180
06/97	133	170
07/97	129	415
08/97	Not available	
09/97	139	195
10/97	151	175
11/97	135	185
12/97	175	605
01/98	89	150

Standard: “Maximum 50 units on the platinum-cobalt scale; no other colors perceptible to the human eye”

Our view is that the Codorus Creek is regularly and grossly in violation of the Pennsylvania Water Quality Standard for Color applicable to the West Branch of Codorus Creek.

4.2.2 PADEP’s Selection of “True Color” Rather than “Apparent Color” Measurement Methods and Methodologies Conflicts with the Pennsylvania Water Quality Standards and Virtually Guarantees Continued Public Dissatisfaction with Color Reduction Performance Goals for Glatfelter and Codorus Creek

As noted above, the Pennsylvania Water Quality Standard applicable to the West Branch of Codorus Creek is:

“Maximum 50 units on the platinum-cobalt scale; no other colors perceptible to the human eye” 25 Pa Code 93.7c Table 3 [col1]

However, the measurement methodology of the current and proposed permit contemplates reporting of color in platinum-cobalt units. These units are generally regarded as reflecting “true color” apart from the influence of any turbidity or suspended solids. The comparison as a test for true color has been published in the federal regulations in Table 1B of list of approved inorganic test procedures for water pollution testing.

Glatfelter has been submitting DMRs in platinum-color units but a February 26,

1996 letter by Glatfelter written after PADEP's split samples came back with higher color readings than Glatfelter's indicates that Glatfelter has been using another EPA approved method published by NCASI as NCASI TB 253. It is not clear whether or not Glatfelter has been using the NCASI method all along but instead reported the results as platinum cobalt units under standard method 2120B. It appears that EPA approved a method for color analysis at Glatfelter in March 1982 which appears to undermine the Pennsylvania Water Quality Standard requirement that appears to ensure that apparent color is also measured for compliance purposes.

Notwithstanding the above issue, the use of any "true color" method of color measurement (such as the NCASI method used by Glatfelter) evades the requirement to ensure that color indications measure "other colors perceptible to the human eye" as provided by the wording of the rule. The NCASI method involves filtration of samples with a 0.8 micron filter. This means that small particles of optical light scattering and light adsorption significance are removed from the sample before testing.

However, public perceptions of color in water more carefully reflect "apparent color" and the permit should be amended to include a more stringent color measurement determination that incorporates the effects on color from very fine particles in Glatfelter's wastewater stream that impart color and opacity to receiving waters upon discharge. In addition, given the ability of fine particles in the water to interfere with light penetration in the water, the use of apparent color will more closely reflect the potential biological significance of light extinction in the depths of receiving waters as a result of color discharge in both dissolved and fine particle suspension modes.

4.2.3 EPA Regulations Require Water Quality-Based Effluent Limits for Color in the Proposed Permit over and above BAT Technology-Based Effluent Limits

The failure to incorporate either an immediately effective color effluent limitation or a finally effective color effluent limitation effective at a date certain ensures that approval of the permit as proposed would clearly violation federal regulations under the Clean Water Act and statutory provisions of the Act itself.

Where a state water quality standard violation exists, as it does in the case of the West Branch of Codorus Creek, an effluent limitation must be applied and such effluent limitation must be water quality based (more stringent than a technology-based effluent limitation). The Clean Water Act provides:

"In order to carry out the objective of this chapter there shall be achieved....not later than July 1, 1977, any more stringent limitation, including those necessary to meet water quality standards, treatment standards, or schedules of compliance,

established pursuant to any State law or regulations (under authority preserved by section 1370 of this title) or any other Federal law or regulation, or required to implement any applicable water quality standard established pursuant to this chapter.” 33 USC §1311.(b)(1)(C)

EPA regulations explicitly require a numerical effluent limitation that is effective in NPDES permits in cases where water quality standards are violated:

“In addition to the conditions established under §122.43(a), each NPDES permit shall include conditions meeting the following requirements when applicable:

(d) Water quality standards and State requirements: any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under sections 301, 304, 306, 307, 318 and 405 of CWA necessary to:

(1) Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.

(iii) When the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria with a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant.” 40 CFR 122.44(d)(1)(iii)

In the present case, the Glatfelter permit as proposed cannot comply with this regulatory requirement because it utterly fails to provide for any effluent limitation at all for color that is either immediately effective or effective at a date certain in the future.

To the extent the PADEP sees fit to remedy this serious defect as this comment brings to light by inserting a water quality based effluent limitation, we ask that such action be subject to public notice and comment as the setting of such a water quality based effluent limitation is a substantial matter worthy of such comment.

In summary, the Glatfelter permit as proposed is fatally flawed because it fails to incorporate a water quality based effluent limitation that is an absolute requirement of the Federal Clean Water Act and EPA federal regulations.

4.2.4 Flow Augmentation and Color Issues

Once again we raised the issue of upstream flow augmentation as provided by Glatfelter and criticize the permits allowance of this dilution scheme as a strategy for achieving in-stream color limitations. Such flow augmentation to achieve water quality standards is not absolutely prohibited by the Clean Water Act and EPA clean water regulations.

Techniques of flow augmentation....

“... may be considered as a method of achieving water quality standards on a case-by-case basis when:

(1) the technology-based treatment requirements applicable to the discharge are not sufficient to achieve the standards; (2) The discharger agrees to waive any opportunity to request a variance under Section 301(c), (g) or (h) of the Act; and (3) The discharger demonstrates that such a technique is the preferred environmental and economic method to achieve the standards after consideration of alternatives such as advanced waste treatment, recycle and reuse, land disposal, changes in operating methods, and other available methods.” 40 CFR §125.3(f)

Our view is that, under the present circumstances, Glatfelter is forbidden to employ a flow augmentation scheme for dilution because they have not complied with or accepted any sort of technology-base effluent limitation, they have not waived an opportunity for a variance under 33 USC §1311c, (g) or (h) of the Act, they have made no environmental and/or economic demonstration, they haven’t implemented advanced waste treatment methods and they haven’t changed their process in all technically feasible ways to otherwise achieve a color effluent reduction.

4.2.5 Glatfelter’s failure to Employ State of the Art Technological Advances and PADEP’s Failure to Incorporate Any Effluent Limitation in the Proposed Permit Disqualifies the Company from Obtaining Pennsylvania Variances to Water Quality Base Effluent Limitations through the NPDES Permit Process

The act of PADEP granting Glatfelter an NPDES permit as proposed is explicitly the act of continuing a variance and/or compliance date extension on Pennsylvania Water Quality Standards for color. We note the language in the proposed permit:

“**This permit renews the extension of time** previously granted under 25 Pa. Code §95.4, subject to the terms and conditions set forth in the Amended Consent

Adjudication.” Proposed permit at Section VI, Page 29. (Emphasis added)

Pennsylvania’s water quality standard variance/compliance date extension provision is as follows (in part; “.....” indicates omitted text):

“§95.4. Extensions of time to achieve water quality based effluent limitations.

The Department may grant a discharger an extension of time to achieve water quality based effluent limitations imposed under Chapter 93 (relating to water quality standards) for specific pollutants, if **all** of the following requirements are met:

(1) The discharge was in existence on October 8, 1979, or the date on which the water quality standards applicable to the specific pollutants were originally promulgated, whichever is later.

(2) The discharger either:

(i) Has installed Best Demonstrated Technology (BDT) as defined in this section.

(ii) Has installed Best Available Technology Economically Achievable (BAT).....and will install BDT in accordance with a schedule acceptable to the Department.....

(4) The discharger demonstrates, to the satisfaction of the Department, additional efforts to meet the water quality-based effluent limitations by:

(i) **Modifying process materials or production methods; or both;....**

(iii) **Implements wastewater management practices such as wastewater recycling, wastewater reuse and good housekeeping.**

(iv) Conducting research into the application of new or innovative wastewater treatment technologies or management **practices—including carrying out pilot-plant operations of sufficient size and duration to demonstrate adequately the technical feasibility of such treatment technologies or management practices.**

(d) **Extensions shall be for a limited period of time, not to exceed 5 years, which will be specified by the Department in permits issued under the Clean Streams Law.....A discharger's extension of time may be renewed, for a prior of time for each extension not to exceed 5 years, if the requirements for the extension continue to be met.....**

(f) Failure by the discharger to implement any of the requirements contained in subsections (a)-(e) will result in the imposition and enforcement by the Department of the required water quality based effluent limitations.

(g) The following definition shall apply for the purpose of implementing subsections (a)-(f): Best Demonstrated Technology (BDT) – The combinations of wastewater treatment technologies and management practices which have been demonstrated, to the satisfaction of the Department, **to achieve the most effective degree of pollutant reduction applicable to the type of wastewater and pollutants** in question. The determination of BDT shall be based upon the **documented results** of either full-scale installation and operation of treatment technologies and management practices, or investigation and pilot-plant operations carried out by the discharger. In no case shall BDT be less stringent than Best Pollutant Control Technology (BCT), or standards of performance for new sources for the wastewater and pollutants as determined by the Administrator of the United States Environmental Protection Agency under 33 USCA §§ 1314(b) and 1316.” **(Emphasis added)**

We argue here that Glatfelter is not entitled to a State of Pennsylvania variance and/or compliance date extension as provided in 25 Pa. Code §95.4 for the following reasons:

Glatfelter has not explicitly provided a request at this time for a 25 Pa. Code §95.4 variance.

Glatfelter has provided no assurances that it has applied Best Demonstrated Technology (under PA definition) or Best Available Technology Economically Achievable (under federal definitions). Federal BAT is foreclosed because federal BAT on a best professional judgement basis must be represented by a numerical effluent limitation, which Glatfelter will not accept and PADEP has not provided in the proposed permit.

Moreover, Glatfelter has not provided the target technologies that EPA and much

of the rest of the pulp and paper industry have now provided as state of the art process technology (See section 5 for a detailed discussion of this issue).

There is no schedule of final compliance provided in the proposed permit.

Glatfelter has not demonstrated that it has exerted sufficient “additional efforts” at “modifying process materials or production methods” (See Section 5 for additional specificity on this issue.)

Glatfelter has not adopted “wastewater recycling, wastewater reuse and good housekeeping” as provided in the Pennsylvania rule. They have not, for example, adopted bleach filtrate reuse as Champion International now has with commercial implementation in an enforceable agreement adopted in December, 1997 at its Canton NC Mill. Glatfelter is unable to state that it has “good housekeeping” in management of its mill effluents since they admit that they don’t know the source of 51% of the color problem (July 1997 color ACA report) and therefor Glatfelter has no idea of the effectiveness of any best management practice efforts they are undertaking. (See Section 5 for additional specificity on these issues).

Glatfelter has carried out no “pilot-plant operations of sufficient size” on end of pipe controls. Glatfelter prematurely abandoned their use of advanced flocculents and they held that the York Energy Partners project to use their effluent for cooling water was to be a so-called “pilot project” and this was not completed.

Glatfelter has failed to “demonstrate adequately the technical feasibility of such treatment technologies or management practices” since they have no detailed engineering reports on end-of-pipe controls, ozone bleaching, 100% chlorine dioxide substitution, hardwood line oxygen delignification and other salient, needed projects that show quantitatively the environmental benefits, the costs, the technical feasibility and the application to their plant and process. Glatfelter’s indefinite statements on such matters in the annual color reports do not meet the criteria of being detailed engineering reports.

Glatfelter has failed to ensure compliance will occur in a “limited period of time, not to exceed 5 years.” Glatfelter wants and feels it is entitled to an indefinite variance and such request must be denied as illegal under the Pennsylvania variance/compliance date provision.

Finally, Glatfelter has simply not shown its operation to being able to “achieve the most effective degree of pollutant reduction applicable to the type of wastewater and pollutants in question.” EPA materials in the file clearly indicate other plants in the U.S. have done more to control color than has Glatfelter.

For the reasons above, any attempt to grant Glatfelter such a 25 Pa. Code §95.4 variance or compliance date extension should be denied. Since the permit as written effectively grants such a variance it also should be denied in its present form as being illegal under Pennsylvania environmental regulation and thus under the Clean Streams Law.

4.2.6 Similarly, Glatfelter is Not Entitled to a Federal Clean Water Act Variance from Compliance with Applicable Water Quality Based Effluent Limitations and Water Quality Standards under 40 CFR §131.10(g)(6), 40 CFR §131.13, 40 CFR §122.21(m)(5) and 33 USC 1312(b)(2)(A)

Under EPA rules, a variance on water quality standards is available where:

“Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact.” 40 CFR §131.10(g)(6)

Language at 40 CFR §131.13 allows state level variance procedures that are suggested by 40 CFR §131.10(g)(6) to be approved for federal purposes. In the present case, however, EPA appears to have disapproved Pennsylvania’s 25 Pa. Code 94.5 variance procedure by a May 11, 1993 letter from Alvin R. Morris of EPA to Caren Glotfelty of PADEP which indicates the following:

“A 1990 National Variance Assessment determined that Pennsylvania has water quality standards variance provisions in the Commonwealth’s wastewater treatment regulations at 25 Pa. Code §95.4. The rules allow qualified dischargers up to five years to meet water quality-based effluent limitations applicable to a pollutant contained in the NPDES permit. In essence, if the permit limits required to meeting standards cannot be achieved after a three year compliance schedule , a five year variance is granted through the permit process. Pennsylvania must incorporate the variance provision in the water quality standards instead of the permit regulations. The variance provisions should be revised to comply with 40 CFR 131.10(g) and Sections 301(b)(1)(C) and 402(a)(1) of the CWA. This would include 1) changing the provisions that currently modify the effluent limits to instead modify the underlying standard, and 2) modifying the provisions so that variances will not extend for periods longer than three years without a review.”

In the present case, Glatfelter has submitted no such demonstration of “widespread economic and social impact” and has requested no such variance at this writing. In fact, a very good case can be made that Glatfelter is causing “widespread

economic and social impact” with the adverse effects of its discharge in the Codorus Creek watershed, the negative effects on community well-being and economic development in the City of York, PA and the adverse effect on fisheries and recreation in the watershed that occur on significant public lands adjacent to Codorus Creek.

A federal variance is also available under 33 USC 1312(b)(2)(A):

“The Administrator, with the concurrence of the State, may issue a permit which modifies the effluent limitations required by Subsection (a) of this section for pollutants other than toxic pollutants if the applicant demonstrates are such hearing that (whether or not technology or other alternative control strategies are available) there is no reasonable relationship between the economic and social costs and the benefits to be obtained (including attainment of the objective of this chapter) from achieving such limitation.” 33 USC 1312(b)(2)(A)

We hold that Glatfelter is not entitled to such a variance because they have not applied for such a variance at this writing and that they have made no such demonstration and would, in fact, be incapable of making such a demonstration as long as they have not installed state of the art technology-based effluent controls and process changes as outlined elsewhere in this comment.

Finally, we strenuously object to the provisions of the EPA rule at 40 CFR §122.21(m)(5), which would allow Glatfelter to submit a federal variance request 5 minutes before the close of the public comment period and still have it considered. The rule provides:

“(5) Water quality related effluent limitations. A modification under section 302(b)(2) of requirements under section 302(a) for achieving water quality related effluent limitations may be requested no later than the close of the public comment period under §124.10 on the permit from which the modification is sought.” 40 CFR §122.21(m)(5)

This rule denies public commentors due process in evaluating the record and deliberately frustrates the intent of the Clean Water Act to explicitly foster and encourage public participation. We strenuously object if Glatfelter submits such a variance request anytime after the announcement of the public notice, hearing and proposed permit. The contents and justification of such a variance request is an important matter for public examination and comment and allowing the applicant to submit such a variance request on the eve of the public comment deadline ensures that no adverse public comment on such a request will be received.

- 4.3 The May 16, 1989 Amended Consent Adjudication on Color Constitutes a *De-Facto* Modification of the Previously Issued Permit Without Following the Procedures for Amending an NPDES Permit and Without Public Notice and Public Participation, as well as a De Facto Modification of Pennsylvania Water Quality Standards

PADEP apparently believe that they are bound for eternity by provisions of the May 16, 1989 Amended Consent Adjudication which provides a remarkable intended *fate accompli* to determine the future, notwithstanding any other factor, law or condition:

“Nothing set forth in this Amended Consent Adjudication is intended, nor shall be construed, to relieve or limit Glatfelter’s obligation to comply with any existing or subsequent statute, regulation, permit or order except with respect to the discharge of color from the Facility to the West Branch of the Codorus Creek. In addition, nothing set forth in this Amended Consent Adjudication is intended, nor shall be construed, to authorize any violation of any statute, regulation, order, or permit issued or administered by the Department, but this Amended Consent Adjudication shall be construed to establish Glatfelter’s obligations under any statute, regulation, order, or permit with respect to the discharge of color from the Facility to the West Branch of the Codorus Creek.” May 16, 1989 Consent Judgement at Page 10

PADEP staff apparently feel bound by this order. However, to argue that decisions in 1973 and 1989 are binding for all time and for all parties despite changes in circumstances, subsequent permit decisions and public comment is a ludicrous attempt to have the past bind all determinations in the future. The interpretation PADEP gives this document would have it overturn the Clean Water Act, Federal regulation and State water Quality standards. The interpretation PADEP is holding would allow all future technology determinations on color reductions to be held for naught.

These are plainly absurd, ridiculous results, particularly when PADEP also takes the position that issuance of a permit renewal is a renewal of the May 16, 1989 agreement (see permit language). It flies in the face of logic for a 1973/1989 decision to bind present decision making as to circumstances of color reduction at the present day Glatfelter facility operating in the current environment of technological progress on effluent controls and process changes.

The ACA itself is an attempt to have impermissibly engaged in a *de facto* NPDES permit modification process without following the requirements for public notice and substantive determination in an NPDES permit modification process. In doing so, Glatfelter and PADEP would impermissibly render null and void Clean Water Act and EPA regulatory provisions governing NPDES permit modifications. See also Citizens for

a Better Environment v. Union Oil Co., 861 F. Supp 889 (N.D. Cal 1994) at page 903

Finally, it should be pointed out that the May 16, 1989 Amended Consent Adjudication made no findings on economic costs of compliance. The sole finding of substance was that compliance was not technically feasible (See ACA at provision K, Page 4). Again, a 1973 and 1989 determination of technical infeasibility cannot bind current determinations on technical and economic feasibility of compliance, or even at least interim compliance, based on present technology, industry practice and available effluent controls and process changes. To say, again, that such a past decision is binding on PADEP is a ludicrous result.

5 Issues of the Adequacy of PADEP Technology Assessment on Effluent Control and Process Technology and Glatfelter's Presently Installed Effluent Controls, Process Technology and Best Management Practices

5.1 PADEP Failed to do a Contemporaneous *de novo* Review of Color-Related BAT Technology, Process and Effluent Control Issues and Best Management Practices and Failed to Make Specific Findings on such Matters on the Record

After a diligent search of the PADEP permitting records at the South Central Regional Office, only one document could be found which constituted a *de novo* review work product of salient effluent control and process modification technology for color effluent reduction. This was a March 15, 1989 memorandum from Daniel B. Drawbaugh to Richard M. Boardman, which discussed review of technical issues for the Stone Container Hodge, LA facility and their use of polymer diffuse air floatation technology to remove color pollutants from their wastewater stream.

The recent Fact Sheet did not provide an effective discussion of PADEP's view of the merits of various color reduction technologies and an exposition of PADEP's engineering judgement in regard to alternatives adopted and alternatives not adopted, the efficacy and feasibility of control/process change options and PADEP's views concerning the applicability of control/process change alternatives to the Glatfelter mill from an engineering standpoint..

For all practical purposes, PADEP has deferred to Glatfelter's judgements and technical reviews in their annual reports and have not conducted their own independent decision making and fact finding as to color reduction technology.

We did find evidence of PADEP's own internal doubts about the quality of reports submitted by Glatfelter. According to a July 11, 1995 memo from Leon M. Oberdick to Roger Musselman:

“We have received the enclosed annual Color Reduction Report required by the Consent adjudication from PHG. Please have Paul review it and coordinate the review with Operations and Central Office. I am sending them copies of the report with this memo.”

“I looked it over and have some questions. I think we need to get better data from PHG in these reports. They tend to make general statements discounting the viability of various treatment methods by saying things like ‘there are significant concerns regarding treatment efficiency and cost during the scale-up to full-scale treatment operation’, ‘separation of the large amounts of flyash from the treated effluent and its disposal are major drawbacks to this approach’ and ‘PHG has evaluated this technology in the past and found the generation and disposal of an additional sludge to be cost prohibitive.’ We need to require PHG to give us a better description of what these various methods would result in environmentally. What would PHG gain in color removal (estimate at least), costs, sludge problems (more defined). It seems to me they could have done a better job describing the following technologies: UV/H₂O₂, flyash, Stone Container Corp technology and sodium hypochlorite/anaerobic treatment.”

“Since this is a technology issue I am asking Central Office to try to find out from EPA and any universitys (sic) doing color removal lab work what is happening. Let do a better job in getting PHG to adequately explain their efforts and research.”

Despite this memo and the second thoughts it communicated, there is no evidence in the file on any follow up or communication of this view to the Glatfelter Company by PADEP Water Management staff. The only exception was the results of a PADEP Freedom of Information Act request to EPA Region III, which was a October 27, 1997 letter from Evelyn S. MacKnight to Leon Oberdick which said (in part):

“...it appears that other companies have achieved lower color levels and have taken action to reduce the color in their discharges below that of Glatfelter. For example, they have gone to 100% substitution of chlorine dioxide for elementary chlorine. Two companies are using oxygen to replace part of the chlorine dioxide as a bleaching agent. Another company has done extensive work in recycling a significant portion of the bleaching filtrate....”

The letter outlined several other methods and techniques for reducing color which Glatfelter is not employing and, apparently, PADEP has chosen to ignore in making its final NPDES permit decision.

PADEP should make its own findings and conclusions concerning color reduction

technologies and methods that exist today and set them forth in a record or decision and/or finding in the current NPDES permit proceeding.

5.2 Glatfelter's Compliance with the Amended Consent Adjudication has been Marked by Dilatory Efforts and Delaying Tactics

A review of Glatfelter's annual color reports that very little, if any, of Glatfelter's own work on color reduction technology was ever published in peer reviewed pulp and paper industry publications. As a result, there was never any process by which Glatfelter's results were conformed to the norm of knowledge about color reduction in the pulp and paper industry.

A good example is Glatfelter's early declaration that 100% chlorine dioxide increased color effluents. This early 1990's declaration was unchallenged by PADEP and it was only about 5-6 years later that Glatfelter again tried complete chlorine dioxide substitution trials.

As noted in another section, Glatfelter started only one pilot plant study on end-of-pipe controls and appears to have ended it prematurely.

Glatfelter's reports rarely contained solid engineering review of prospective technologies that affirmatively disclose information on the environmental benefits, costs, performance, advantages, disadvantages and application of the technology to Glatfelter's plant.

At a very late date in 1997, Glatfelter has now determined that it does not know the source of 51% of the color effluents in its discharge. Glatfelter could have characterized its effluent problems with quantitative information on the source term of color pollution for each of its processes back in 1989 when the ACA was adopted. It has not provided such a detailed, quantitative inventory to date. As a result, the environment and Codorus Creek has suffered from pollution that could have been eliminated if PADEP would have exercised appropriate regulatory supervision over Glatfelter and insisted in more substantive engineering studies.

5.3 Glatfelter is Not Employing Important Technological Effluent Control and Process Innovations that would Lead to Enhanced Color Reduction, PCDD/PCDF Minimization, Control of AOX and COD, and other Reduced Environmental and Toxic Impacts on Codorus Creek

Although Glatfelter frequently claims to be using state-of-the-art process effluent

control technology and industrial pollution prevention techniques, these claims do not stand even the most minimal of scrutiny.

First, Glatfelter continues to use 30% molecular chlorine bleaching practices. This practice continues even though Glatfelter has already installed sufficient chlorine dioxide generation capability for 100% chlorine dioxide substitution. As a result, Glatfelter has accepted the capitol cost of this process change technology but has not apparently yet accepted the operating costs of the additional 30% of substitution. However nothing in the record or in Glatfelter's color report submittals quantifies this additional operating cost or show how it is excessive.

Continued use of molecular chlorine bleaching technology ensures that Glatfelter will continue to emit excessive amounts of true color and apparent color caused as a result of the chlorination of high molecular weight color bodies, which will exhibit poor treatability characteristics in Glatfelter's biological wastewater treatment system. Such continued use of chlorine bleaching is likely to lead to continued effluents of poly-chlorinated dibenzo dioxins and poly-chlorinated dibenzo furans, chloroform, elevated AOX and other toxic, hard to treat chlorinated organic compounds and chlorinated lignin breakdown products.

U.S. EPA identifies 100% chlorine dioxide substitution as the key target technology for compliance with the new cluster rules under the Clean Water Act and the Clean Air Act. PADEP has been directly advised of the benefits of 100% chlorine dioxide substitution by EPA Region III.

Total substitution of chlorine dioxide for chlorine bleaching has been strongly endorsed by paper industry organizations such as the Alliance for Environmental Technology. Large portions of the U.S. paper industry have converted to 100% chlorine dioxide substitution.

Second, Glatfelter still does not have in place a form of oxygen delignification on its hardwood line or a form of extended delignification/cooking in either the hardwood or the softwood line. Oxygen delignification is a key technology required for any realistic, state-of-the-art color/toxics reduction program because it increases the amount of lignins removed from pulp before introduction into bleaching stages and allows these lignin materials to be diverted from bleach plant sewers in favor of burning in recovery boilers.

In sizing its new recovery boiler that began operation in 1994-95, Glatfelter should have known that recovery streams would be increasing and an excuse that available black liquor burning capacity is at a maximum should be disallowed as a justification for not considering oxygen delignification on both hardwood and softwood lines as appropriate technologies. Glatfelter should have commenced construction of a new recovery boiler

many years previous to the time they actually did so on pollution control grounds alone. They should have provided for adequate black liquor evaporation and burning capacity knowing, as all of the paper industry did, that current pressures for improvement as well as expected future pressures mitigated for larger recovery facilities. Any consideration that black liquor burning bottlenecks after the construction of the new recovery boiler are to be an excuse not to implement hardwood line oxygen delignification ought to be considered as an example of Glatfelter's poor planning for its current and future pollution control responsibilities.

Nothing in the file indicates that Glatfelter is using any form of extended delignification in the form of extended pulp cooking time, anthraquinone assisted pulping or other technique for removing more lignin during the pulping process. We note that Glatfelter is still operating antiquated batch pulping techniques on their hardwood line as opposed to continuous pulping Kamyr digesters.

According to U.S. EPA, "option B" technologies using both 100% chlorine dioxide substitution and oxygen delignification are effective pollution prevention process change strategies:

"Compared to current discharges, the incremental benefits associated with OD (Option B) include: reduction of color (by 40 percent); COD (by 40 percent); AOX (by 84 percent); and chronic sublethal aquatic toxicity." 63 FR 18592

According to EPA even greater pollution prevention results would be yielded by a conversion to totally chlorine free (TCF) bleaching technologies:

"TCF would also reduce color discharges (by 40 percent); COD (by 40 percent); AOX (by 96 percent) and chronic sub-lethal aquatic toxicity." 63 FR 18592

Third, nothing in the file indicates and/or assures that Glatfelter is, in fact, using other "option B" technologies for reducing toxicant, color and other pollutant impacts in bleached kraft mill effluent. (See 63 FR 18542) These technologies include:

Chip thickness control

Closed brownstock pulp screen room operations, such that screening filtrates are returned to the recovery cycle.

Use of dioxin- and furan-precursor-free defoamers made with precursor-free oils

Brownstock washing that achieves 99% recovery of pulping chemicals from the pulp

Use of strategies to minimize kappa factor in the first bleaching stage

High shear mixing during bleaching to ensure adequate mixing of pulp and bleaching chemicals

An April 3, 1995 PADEP inspection report indicates:

“Due to new processes within the mill, condensate streams have an increased amount of sulfur compounds. These compounds escape from roof and sewer vents around the paper mill complex. Steam stripping of the waste water was discussed as a possibility to be used in the future. Beginning in July, the plant will add sodium hypochlorite (bleach) to most condensate streams. This will reduce odor coming from some vents and sewers. Inspected pulp mill sewer bar screen area located between the coater and Rt. 116. Many strong sulfur type odors being emitted.” (Joe Roth 4/3/95 PADEP inspection report on Glatfelter mill)

This inspection report suggests the possibility that Glatfelter sewers its contaminated condensate streams rather than steam stripping them for sulfur and VOC destruction in a burning device. If this is the case, this means that sulfide compounds and complex organics may be needlessly entering the mill sewer system where they may cause enhanced toxicity of mill effluents. As noted in the inspection, these practices also have adverse air contamination consequences.

Glatfelter is NOT using the following end of pipe treatment technologies that are technically feasible for reducing the various forms of impact their wastewater has on Codorus Creek receiving waters::

Tertiary clarifiers with flocculation agents

Sand filtration

Wastewater filtration processes for solids at the same level as filtration that might be used for water intake treatment

Lime treatments

Chemical precipitation of dissolved solids

Waste flow separation for volume reduction to increase the technical feasibility of treating a smaller waste stream more intensively compared to treating a single larger comingled waste stream

Finally, Glatfelter's admission that it cannot account for 51% of the total color measured in its effluent (July 8, 1997 annual report pursuant to the ACA) indicates that Glatfelter has failed for many years to properly characterize the sources and causes of their problem with color. This failure to be able to characterize their own problems at this late date means they have a poor understanding of their own process, its parameters

and environmental impacts. This failure means that they do not have the kind of administrative and technical control over all of their processes that effective Best Management Practices for spill reduction and effluent control would dictate. Effective spill management and dispatch of in-plant process streams is essential for highly effective color, COD and toxics control in a bleached kraft pulp mill. If Glatfelter is unable to numerically quantify all of the sources of their problem, it is highly likely that their efforts at Best Management Practices are not effective in getting the pollution prevention results that well-conceived Best Management Practice operational practice is capable of achieving.

For PADEP to countenance that Glatfelter has fully explored and achieved what is available to reduce color, toxics and COD pollution problems when Glatfelter is unable to identify the source of 51% of their color effluent problems strains credulity when PADEP insists nothing more can be done and that progress is technically infeasible. At the very least, PADEP should have required a detailed inventory of improvements that could be achieved by the use of Best Management Practices and that this improvement be made enforceable through application of more stringent effluent limitation in lbs. color per day.

5.4 PADEP and Glatfelter Analysis on the Color Reduction Technology Issue has Failed to Recognize Important Recent Developments in Color Reduction at the Champion International Canton NC Facility

In December, 1997, Champion International entered into a settlement agreement concerning effluents from its Canton NC mill. The settlement agreement provided that Champion would commit to full commercial operation of its new Bleach Filtrate Recycle technology on the mill's softwood line. Bleach Filtrate Recycle (BFR) technology was mentioned in a previous Glatfelter report but there was no mention in the file of the December 1997 agreement that it had become fully commercialized in operation at the Champion International Canton NC mill.

Bleach Filtrate Recycle (BFR) technology involves recycling of bleach plant filtrates in the pulping and bleaching process with recovery of filtrates in the recovery boiler. The essence of BFR is to provide two additional processing steps which:

- (1) involve chloride removal through a crystallization process on green liquor in order to bleed out chlorides that would otherwise build up in any closed-loop recycling process, and
- (2) involve an additional processing step which removes potassium, magnesium and other metals which can also build up in the closed loop recycling process.

Before proposing issuance of the present permit, PADEP should have required a detailed engineering assessment of the technical feasibility, costs and environmental benefits of using BFR processes at the Glatfelter mill.

In addition to the use of the BFR process, Champion International has apparently also agreed to a significant reduction in permissible color discharges, and requirements for best management practices that are expected to assist in color reduction efforts.

One hallmark of the analysis that has taken place at the Champion Mill is that there has been a detailed numerical exposition of the inventory characterizing sources and causes of color generation in all of the Champion mill. Glatfelter and PADEP have not completed any sort of detailed inventory providing the same level of information about problems at the Glatfelter facility.

5.5 Conflicting Information Exists in the Record as to Claims for Color Reduction Achievement at the Glatfelter Facility

The record contains conflicting, unexplained discrepancies between data sets and claims concerning color reduction achievements by the Glatfelter facility.

Glatfelter's original 1988 application for renewal indicates a maximum daily color of 1,050 PCU, a maximum 30 day average of 797 PCU and a long term average of 714 PCU.

Glatfelter's "Estimated Color of Mill Sewer Streams" contained in table 1 of its July 8, 1997 letter reporting under the ACA shows 300 PCU as the achievement under the "current" system. The same document provides an estimate of 32,524 lbs/day of color effluents.

Glatfelter's December 19, 1995 permit renewal re-application shows 755 PCU and 79,338 lbs/day for the maximum daily value; and 441 PCU and 47,445 lbs/day as the average of maximum daily values.

Laboratory sample results attached to the January, 1997 prior version of the Water Quality Protection Report shows the following 11 values for color in PCU units at outfall 001:

500 560 400 480 640 750 640 560 540 560 480

with a summary indicating 536 PCU as the average of the value.

DMRs in the last year report the following color effluents:

Month	Average	Maximum
01/97	314	317
02/97	298	335
03/97	323	525
04/97	314	375
05/97	314	380
06/97	318	380
07/97	375	1,345
08/97	not available	
09/97	349	535
10/97	324	360
11/97	314	370
12/97	477	2,715
01/98	293	370
Average	308	667

First, the difference between the 1988 and the 1995 applications does not support company claims of a 51% reduction in color made in their July 8, 1997 submittal.

Second, comparison between the two applications shows only marginal improvement between the 1988 and the 1995 declarations for maximum daily color effluents. The DMR maximum daily effluent numbers show that the maximum daily color effluent numbers for the 1988 and 1995 applications are far exceeded by 1997 operations of the facility.

Third, the company's July 1997 specification of average lb/day color effluents cannot be reconciled with its 1995 declaration of average color effluent in pounds per day.

Fourth, the results of 11 samples taken by PADEP cannot, in general, be reconciled with the company's claim of a 300 PCU long term average color effluent or the claims of the company in its most recent year of DMRs.

PADEP and Glatfelter should explain these non-conformances between data sets, reports and company claims before issuing the proposed permit.

5.6 PADEP and Glatfelter Should Change to Consistent Use of Mass Per Time Units for Characterizing Color Reduction Inventory and Management Plans

Glatfelter should be required to produce within the next 3 months a complete inventory of color pollution in pound per day units for all process operations and sewers at the Glatfelter facility. Such quantitative inventory information should specifically and quantifiably identify the color reduction achievements that can be expected for any technology, end of pipe control and/or best management practice operation that is identified for planning alternatives or for implementation.

Without this level of quantitative engineering planning rigor, Glatfelter will never identify or solve its problems and the company will continue to evade its responsibilities to ensure BAT for color effluent reduction.

6 The AOX Limits of the Proposed Permit are in Error

The proposed permit allows 1,480 lbs/day of AOX effluent on an average monthly basis and yet provided 969 lbs/day as a maximum daily AOX limit. Such an exposition of maximum daily vs. average daily defies common sense since the monthly average of the maximum daily limit exceeds the maximum daily limit. This is obviously an error which should be corrected by PADEP.

7 Glatfelter Should be Required to Implement a Flow Minimization and Internal Water Conservation Plan to Limit Effluent Flows

The proposed permit for Glatfelter should be amended to contain a process water conservation plan that would require minimizing water intake and process water discharges. Components of the plan would require study of the Glatfelter mill to determine that as many water conservation and internal water reuse and recycling processes were installed in the plant as possible. These would include steam stripping and reuse of condensates and requirements for the installation of countercurrent water and filtrate flows for brownstock washing and bleaching extraction processes.

8 The Proposed Permit Impermissibly Allows Backsliding of Effluent Limitations by Changing BOD5 Requirements to CBOD5 Limits

The May 22, 1984 NPDES permit for Glatfelter contained the following five-day Biological Oxygen Demand (BOD5) mass unit effluent limitations for outfall 001:

5/1 to 10/31	1168 lbs/day (average monthly) 2335 lbs/day (maximum daily)
11/1 to 4/30	1751 lbs/day (average monthly) 3503 lbs/day (maximum daily)

The proposed permit retains the same numerical effluent limitations at the 1984 permit but the compliance testing methodology that is specified is for a CBOD5 rather than BOD5. CBOD5 testing methodologies assay the biological oxygen demanding effects of carbonatious material in the sample only and do not account for the biological oxygen demand of reduced nitrogen.

As a result, under the conditions of the new proposed permit, the effluent would be permitted to exert a greater biological oxygen demanding effect from carbonatious biological oxygen demanding materials than under the previous permit since the amount of carbonatious biological oxygen demand in the previous permit could not consume the entire amount of the permitted BOD5 release (the difference being that the biological oxygen demand for ammonia would have to be added to the carbonatious demand under the previous permit before making judgements for compliance purposes).

Alternatively stated, PADEP is proposing to measure biological oxygen demand by a method that is less sensitive than the former method to the oxygen demanding effects of the effluent.

We hold that this relaxation scheme constitutes impermissible “backsliding”.that is prohibited by the Federal Clean Water Act and the EPA NPDES regulations, which provide:

“(1) Reissued permits. (1) Except as provided in paragraph (1)(2) of this section when a permit is renewed or reissued, interim effluent limitations, standards or **conditions** must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and re-issuance under §122.62.” 40 CFR §122.44(1) (emphasis added)

There is nothing in the records of the PADEP which would justify this relaxation on the basis of any new information. The latest water quality protection report does not effectively deal with any specificity on this issue at all as to the justification for changing the compliance methodology from BOD5 to the most lenient CBOD5. We hold that the regulatory language citing “conditions” is controlling in this case and that the CBOD5 condition is an impermissible relaxation over the prior BOD5 condition utilized and that

it will allow the source to evade monitoring of the biological oxygen demanding nitrogenous materials that it discharges.

A PADEP inspection of Glatfelter indicated that the company was impermissibly doing a CBOD5 instead of a BOD5 for an undetermined time interval prior to September 1, 1998. PADEP took no enforcement action and assessed no penalty despite an admitted, knowing violation of the monitoring provisions of the prior permit.

9 PADEP Should Incorporate a BAT Requirement for Chemical Oxygen Demand Given the Nature of Glatfelter's Effluents and the Significance of COD for Toxic Releases

9.1 Glatfelter's Effluents of Chemical Oxygen Demand are Significant

Chemical oxygen demand (COD) is a serious problem for the Glatfelter effluent. Glatfelter's original NPDES application reported 28,356 lbs/day for a long term average effluent value and a maximum daily effluent of 36,367 lbs/day for 1988 data.

Data indicated in the 1995 review of the mill by EPA contractor Radian Inc. shows COD effluents of 11,660 kg/day (about 25,652 lbs/day).

A review of 1997 COD data presented in the January 1997 Water Quality Protection Report indicates an average of 198 mg/l of COD at the Glatfelter outfall. At 13.7 million gallons per day this is equivalent to 22,600 lbs of COD per day and thus represents only minor improvement with respect to 1988 COD performance at the Glatfelter mill, notwithstanding recent mill improvements.

9.2 Contrary to Assertions in the February 28, 1998 PADEP Water Quality Protection Report, EPA Strongly Urges State Adoption in NPDES Permits of Chemical Oxygen Demand Limitations as the Best Single Indicator of Aquatic Toxicants in Bleached Kraft Pulp Mill Effluent

According to the recently promulgated pulp and paper industry cluster rule:

“EPA strongly urges permitting authorities to consider including COD limitations in NPDES permits for Subpart B and E mills on the basis of best professional judgment. See 40 CFR §125.3(c).....”

“EPA believes that permitting or pretreatment authorities should address COD for

the following reasons. Chronic sublethal toxic effects have been found to result from the discharge of treated effluent from bleached and unbleached kraft, mechanical, and groundwood/sulfite pulp mills..... These chronic toxic effects were measured as increased liver mixed-function oxydase activity and symptoms of altered reproductive capacity in fish. This toxicity is associated at least in part with families of non-chlorinated organic materials that are measured by the existing COD analytical method. Some of these materials, including several wood extractive constituents found in pulping liquors, are refractory (i.e. resistant to rapid biological degradation) and thus are not measurable by the five-day biochemical oxygen demand (BOD5) analytical method.” 63 FR 18537

Statements in the February 28, 1998 Water Quality Protection report suggesting that the Cluster Rule was encouraging “flexibility” on COD and that COD was not an appropriate method to detect refractory bleached kraft mill effluent toxic pollutants are not credible.

9.3 Water Quality Protection Analysis to Protect Downstream Dissolved Oxygen Cannot be Credible or Protective Unless Both BOD5 and COD5 are Considered Together; a Water Quality Based Effluent Limitation for COD5 is Required to Protect Downstream Dissolved Oxygen Under Worst Case Conditions

The February 28, 1998 Water Quality Protection Report’s analysis of the downstream dissolved oxygen issue concerns only BOD5 and ignores COD5. PADEP’s analysis of BOD5 under worst case conditions shows that 25.9 mg/liter of BOD5 can be discharged without causing a dissolved oxygen violation. At the stated mass load limit, the permit allows 10.2 mg/liter of BOD5 to be discharged.

PADEP’s files show that average discharges of COD5 are over 19 times higher than mass limits for BOD5.

EPA regulations explicitly require a numerical effluent limitation that is effective in NPDES permits in cases where water quality standards are violated or where there is a possibility that they might be violated:

“In addition to the conditions established under §122.43(a), each NPDES permit shall include conditions meeting the following requirements when applicable:

(d) Water quality standards and State requirements: any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under sections 301, 304, 306, 307, 318 and 405 of CWA necessary to:

(1) Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.

(iii) When the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria with a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant.” 40 CFR 122.44(d)(1)(iii)

In the present case, the Glatfelter permit as proposed cannot comply with this regulatory requirement because it utterly fails to provide for any effluent limitation at all for chemical oxygen demand.

9.4 Control and Process Change Technology Exists to Control Chemical Oxygen Demand

According to U.S. EPA, there exists technology to control chemical oxygen demand effluents from pulp and paper facilities:

“The major sources of COD (which includes slowly biodegradable and non-biodegradable organic material) at a pulp mill are the pulp mill and bleach plant areas. Pulping sources of COD include digester condensates and spent pulping liquor. Open screening processes can be a major source of COD discharges. Spent pulping liquor can also be lost from the process through process spills and equipment leaks. Bleach plant filtrates, the recovery area, leaks from turpentine processing areas at softwood mills, and pulp dryers are examples of other sources of COD at pulp mills.”

“The process changes that form the basis of the effluent limitation guidelines and standards promulgated today include processes that can reduce discharges of primarily non-chlorinated organic compounds. By recovering much of the non-chlorinated organic compounds prior to bleaching, discharges of chlorinated organic compounds also are reduced. For example, improved brownstock washing, which is part of the model technology basis for today’s regulation, can be operated (for the purposes of achieving COD limitations) to minimize black liquor carryover to the bleach plant and thus reduce the formation of AOX and toxic chlorinated compounds. Another process technology effective at reducing organic discharges associated with pulping liquors is for a mill to return all water from pulp screening to the process, termed a closed screen room.” 63 FR 18538

9.5 PADEP Should Set Effluent Limitations and More Intensive Monitoring Requirements for Chemical Oxygen Demand in the Glatfelter NPDES Permit

At the very least, PADEP should set a best available technology effluent limitation for COD in the Glatfelter permit because of the substantial COD loading in effluent streams.

EPA has issued regulations requiring best available technology (BAT) determined by best professional judgement (BPJ) applicable to chemical oxygen demand as a non-conventional pollutant which require:

“For all pollutants which are neither toxic nor conventional pollutants, effluent limitations based on BAT...for permits issued on a case-by-case (BPJ) basis under section 402(a)(1)(B) of the Act after February 4, 1987 establishing BAT effluent limitations compliance is required as expeditiously as practicable but in no case later than three years after the date such limitations are established and in no case later than March 31, 1989.” 40 CFR §125.3(a)(2)(v)(B)

The same argument concerning needed BAT-BPJ limits for color pollution set forth elsewhere in this comment also apply to the need for a mandatory COD limit.

Monitoring requirements for COD at outfalls 001 and 101 should be increased to once per day from their current once per week frequency. According to the 1995 Radian Corporation review of the mill, Glatfelter did not at that time routinely monitor COD in their effluent.

10 Issues Relating to Heated Effluents

The permit should be amended to require an effluent limitation, not just an in-stream limitation, be imposed on both outfalls 001 and 002. These outfalls should be subject to continuous monitoring requirements for temperature.

Consistent with the October 24, 1990 comments of the PADEP Aquatic Biologist, the monitoring point for ascertaining the effect of heated discharges should be moved closer to outfall 001. His suggestion was to monitor no farther than 0.6 mile downstream instead of the 2 mile downstream location presently allowed. We support restricting the mixing zone for heated effluents to as close to outfall 001 as is feasible.

Given the already degraded condition of Codorus Creek, we question whether the

demonstration requested will yield differentiable results as to ensuring protection of a balance population of aquatic life. It is time for Glatfelter to take more aggressive steps to control heated effluents through use of cooling towers and by developing uses for low grade heat, potentially for space heating.

11 Chemical Additives

We note the Glatfelter has been resisting requirements for notice and approval of certain chemical additives. We note that the pulp and paper industry in general has had a long history of use of environmentally destructive compounds for slime controls in paper machines and elsewhere in pulp and paper plants. Compounds such as chlorinated phenols, mercury and tri-butyl tin have been used in the past. We understand that these compounds are not used at Glatfelter.

However, the problem of slime control in paper machines requires use of a compound which will not brake down in warm water aqueous systems, is effectively toxic to undesirable biological organisms, yet must not be toxic when discharged to receiving streams. This is indeed a tall order and, as noted above, the record of technology assessment on this issue has not been good in the pulp and paper industry.

We continue to be concerned about the use of refractory materials which may be toxic in receiving streams and urge that chemical additive reporting and approval mechanisms remain in the permit. This process of evaluation and approval should ensure that refractory toxic and/or bioaccumulative compounds not be used for such applications at this mill.

12 Issues Relating to Total Suspended Solids, Sediment Deposition and Water Quality Standards

The sediment testing program should be completed in the first year of operations under the proposed permit. Sediments should be analyzed for all PCDD/PCDF congeners and the amounts of these compounds present in downstream sediments should be expressed in 2,3,7,8 TCDD toxic equivalents. In addition to PCDD/PCDF, sediments should also be tested for AOX, metals, PCBs and expected chloro-lignin breakdown products which may be toxic.

Samples of mill effluent suspended solids should also be analyzed for the same components by a methodology which will identify whether toxicants, such as PCDD/PCDF, are being adsorbed to particles out of the water column. The sediment study should include an exposure pathway and risk assessment component to determine

the biological effects of PCDD/PCDF adsorption to particles.

The sediment study should identify whether bleach kraft pulp mill effluent from the Glatfelter plant is causing sediment precipitation or sediment formation and should identify the physical, chemical and/or biological means by which such precipitation and/or formation is occurring.

Microscopy and biological determinations should be required to identify the source of sediments and samples of suspended solids from the mill effluent should be used for comparison.

The sediment testing program should be robust enough to determine potentially responsible parties for sediment cleanup and remediation decisions if toxic sediments are found.

The sediment study should incorporate speciation of effluent suspended solids by particle size with a view towards identifying the influence of particle size on both apparent color, deposition patterns affecting benthic communities and potential for ingestion by aquatic organisms.

Finally, the permit acknowledges the need for greater sediment control based on the recommendations of the aquatic biologist, but the effluent limitations that are provided are not water quality based effluent limitations. The Water Quality Protection Report indicates that the sediment limits were adopted by a statistical method based on what the facility is achieving presently as far as total suspended particle effluent control performance. However, where there is a narrative basis for a water quality effluent based standard, it is legal error to instead propose an effluent limitation based on a technology/statistical method of determination that only controls to the status quo and does not resolve the outstanding problems identifies by the Aquatic Biologist.

13 Issues Related to Failure by Glatfelter to More Completely Characterize all Expected Toxic Features of their Wastewater Effluent

Scientific literature published on the environmental effects and fate of bleach kraft mill effluents from the pulp and paper industry indicate significant concern about various chlorinated and non-chlorinated chemical compounds found in such effluent and the toxic effects these materials have on downstream aquatic life.

Glatfelter's application fails to adequately and completely characterize the nature, composition and the quantities of all such compounds that are likely to be found in their effluent at other bleached kraft mills using aspects of chlorine bleaching technology.

Many of these compounds are expected to be refractory in biological wastewater treatment systems and will require advanced tertiary treatment for control.

Here is a partial list of materials (compounds and groups of compounds) which have been identified as potentially significant toxic compounds expected to be found in bleached kraft mill effluent that Glatfelter has failed to characterize or address in their application and/or other supporting materials:

- 3-chloro-4-(dichloromethyl)-5-hydroxy-2(5H)-furanone (MX) (thought to be the most significant of mutagenic compounds in BKME)
- Polychlorinated anisoles
- Polychloro-veratroles
- Polychlorocymenes
- Monochlorophenol
- Chlorovanillins
- Chlorosyringaldehyde
- Dichlorophenols
- Terpenes
- Oleic Acid
- Linolenic Acid
- Pimaric Acid
- Sandracomimarinic Acid
- Abietic Acid
- Chlorinated abietic acids
- Formaldehyde and other aldehydes
- Sterols
- Cyclopentenones
- Chlorinated and unchlorinated thiophenes
- Chlorinated acetic acid compounds
- Chlorinated Sulfones
- Decanoic Acids

Glatfelter should be required to fully characterize their effluent for all potentially toxic constituents known to occur in bleached kraft mill effluent such as those above.

14 Issues Relating to the Sewering of Maintenance-Related Process Fluid Releases

Glatfelter should be explicitly prohibited from sewerage during maintenance and/or shutdown black, green or white liquors produced in the pulp mill process. In particular, sewerage of black liquor during maintenance and/or shutdown can be expected to have significant water quality effects and is unnecessary since this material can be run

through the recovery cycle. Sewering of waste white liquor can cause excursions of pH and may introduce toxic levels of sulfide into wastewater systems. Green liquor can also contain carryover of unburned materials from recovery operations.

15 Issues Relating to Whole Effluent Toxicity Testing

We incorporate by reference support for the whole effluent toxicity policy adopted by EPA and found at <http://www.epa.gov/WET/wetfin.html>. We urge that the permit provisions relating to whole effluent toxicity be made compliant with this policy.

In addition, the permit language should be rewritten to explicitly cite whole effluent toxicity testing results as a numerical effluent limitation for compliance purposes. The present language of the permit does not provide for use of the results of whole effluent toxicity testing in this manner. The practical effect of the current language is only to trigger the need for a toxic reduction plan. Although such a plan is important, it is not an effluent limitation for whole effluent toxicity.

Glatfelter's wastewater discharge should not be permitted to cause by virtue of exposure to whole effluent in the mixing zone significant acute or chronic toxicity in the indicator species used.

We also note that Glatfelter's discharge at times is nearly equal to the minimum guaranteed flow from upstream so that considerations of whole effluent toxicity are extremely important for the protection of aquatic resources.

16 Endangered Species Act Considerations

EPA appears not to have completed an informal consultation process with the U.S. Fish and Wildlife Service in regard to FWS concerns over the effects of the Glatfelter discharge on threatened and/or endangered species and migratory waterfowl. We are disappointed this process has not been completed before U.S. EPA decided to withdraw its objections to the proposed permit. We believe EPA retains the responsibility to carry out this process because such authority has not been explicitly delegated to the State of Pennsylvania, and the State shows now signs of completing the process on its own accord.

Codorus Monitoring Network adopts the comments of the U.S. Fish and Wildlife Service as to Endangered Species Act and migratory bird issues by reference to USFWS letter correspondence in the record dated December 9, 1996, April 25, 1997, May 6, 1997, May 29, 1997 and January 22, 1998; and the April 23, 1998 public hearing

testimony of USFWS.

17 Issues Relating to Monitoring and Reporting Requirements

Present language in the permit is vaguely written as to the requirements to report what is expected to be monitored. The permit should unambiguously require reporting of all parameters that the permit requires to be monitored, regardless of whether a an effluent limitation exists or not. This is particularly important where the permit contains a specific limitation or minimum level requirement since the DMR is the only basis on which the public may gain information for citizen enforcement purposes. The permit should not allow the results of monitoring information to be retained only by Glatfelter and with access to this information only by PADEP at the plant site. DMRs should provide a complete exposition of required monitoring results.

18 Issues Concerning the Need for Additional Effluent Limitations in the Glatfelter Permit

We question the decision of PADEP concerning its decisions to allow a number of parameters to remain unregulated, notwithstanding potentially significant effluents.

Total dissolved solids from the mill are very substantial. Data from 1997 indicates total dissolved solids in outfall 001 in the range of 1200-1300 mg/liter. This translates to as much as 147,960 lbs of total dissolved solids in the plant effluent per day. This is a very large amount of dissolved solids in the effluent and it is difficult to countenance that these dissolved materials have no effect on aquatic life downstream.

Similarly, sulfates are indicated in the 1995 application as being discharged at the rate of 20,441 pounds per day, another very large effluent concentration. There is no indication in the file of any review of sulfates and water quality downstream.

Glatfelter receives significant amounts of secondary municipal waste effluent, but the proposed permit contains no limitation on fecal coliform. Nothing in the file indicates whether Glatfelter would receive any bypass effluent from Spring Grove during heavy rain conditions.

Sewering of white liquor during maintenance period could be expected to release large amounts of sodium sulfide commonly used in that process. Yet there are no sulfide restrictions in the permit for this known aquatic toxicant. In addition, sulfides may participate in odor formation as a result of biological action in the receiving waters.

Effluent limitations for cyanide and total phenolics should be set in the permit (they were eliminated from previous versions). The latest Water Quality Protection Report indicates that actual discharges of cyanide are a significant portion of the model-predicted water quality-based effluent limit of 8.73 ppb (discharge is at 8 ppb). Monitoring requirements and effluent limitations should be imposed for cyanide, particularly in view of the fact that flow augmentation is being used to attempt to dilute this toxicant to avoid an effluent limitation.

Effluent limitations for total phenolics should be incorporated because of the effect of this pollutant on fish taste. Similarly, the previous water quality protection reports indicated a need for effluent limits and monitoring and the only reason these have been dropped is because of flow augmentation.

19 Flow Augmentation Schemes Hurt Water Quality and Recreational Values in Lake Marburg and Effectively De-emphasize Pollution Prevention Approaches

Given the concern of the Codorus Monitoring Network for the entire Codorus Creek Watershed, we object to the flow augmentation provisions of the proposed permit because of likely damage to riparian values upstream in waters of Lake Marburg adjacent to public lands.

Flow augmentation schemes authorized by the proposed permit will likely interfere with fish and wildlife values and public recreation at Lake Marburg. A 1966 agreement between Glatfelter and the State of Pennsylvania authorizes drawdown of Lake Marburg up to 23 feet from its maximum operating elevation. Members of Codorus Monitoring Network have made observations of Lake Marburg during such large drawdowns and the features of the lake during such conditions are that large mudflats forms. These conditions are not conducive to either recreation or fish/wildlife objectives in Lake Marburg.

These kinds of large drawdowns impair the natural resources, waters and fisheries of Lake Marburg. Flow augmentation techniques whereby Glatfelter uses upstream flow augmentation for the purposes of allowing greater discharge into Codorus Creek will directly exacerbate these kinds of impairments at Lake Marburg. According to the Final Environmental Impact Statement for the York County Energy Partners project, Pennsylvania Fish and Boat Commission data suggest a connection exists between drawdowns and poor spawning success of yellow perch.

For such natural resource management reasons, we ask that artificial flow augmentation be disallowed as a pollution management strategy by Glatfelter and that more stringent effluent controls and water quality based effluent limitations be applied as

the environmentally preferable alternative.

20 The Glatfelter Permit Should Contain Provisions Requiring Mitigation of Water Intake Fisheries Losses and Stipulated Payment for Natural Resources Damages

Many facilities that use large amounts of water with intakes from surface waters cause significant amounts of fisheries and aquatic life damage from entrainment of such aquatic life in the inlet flows. Despite a request for information on this issue of the PADEP South Central Region Office water files, no information was provided. There was no information in the file which identifies any mitigation measure to reduce aquatic and natural resources damages that might be expected to occur from the large amounts of water that the Glatfelter facility takes in from the mill pond adjacent to the plant.

PADEP and the Pennsylvania Fish and Boat Commission should determine the nature and amount of any fish and aquatic resource destruction which takes place by virtue of Glatfelter's mill pond intake. At a very minimum, the permit should be amended to require that Glatfelter keep records on the daily destruction of fisheries and other aquatic resources that occurs from operation of their intake. The resulting information should be reported to both PADEP and the Pennsylvania Fish and Boat Commission and made available to the public.

In the event that destruction of aquatic and fisheries resources are significant, Glatfelter should be required to pay stipulated natural resources damages for any such destruction. In addition, Glatfelter should be required to install all available state-of-the-art devices and mitigation measures to reduce any impact their intakes may have on fisheries and aquatic resources.

This is particularly important in light of any possibility Glatfelter may entertain to generate excess electrical energy on the open deregulated market, which may increase intakes for cooling water and may exacerbate any fisheries damage problems from intakes they may have.

U.S. EPA is currently developing regulations under Section 316(b) of the Clean Water Act. This section provides that any standard established pursuant to sections 301 or 306 of the Clean Water Act and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. This regulation is unique that it applies to the intake of water and not the discharge. The goal of this regulation is to minimize the impingement and entrainment of fish and other aquatic organisms as they are drawn into an industrial facility's cooling water intake. Impingement is where fish and other aquatic life are trapped in cooling water intake

screens. Entrainment is where aquatic organisms, eggs and larvae are sucked into the cooling system, through the heat exchanger, and then pumped back out.

At a minimum, the proposed permit should be amended to provide a “reopener clause” so that intake mitigation requirements will be immediately effective on Glatfelter rather than having to wait for the next permit application and review cycle.

21 The Glatfelter Permit Should be Amended to Incorporate Adopted Pennsylvania Narrative and Numeric Water Quality Standards

The Glatfelter permit should be amended to incorporate by reference the inclusion of all Pennsylvania Water Quality Standards that are effective on the date of permit issuance to create a duty to comply with such standards in the absence of specific water quality based effluent limitations placed in the permit.

22 PADEP Should Retain the General Duty Clause

The proposed general duty provision banning the discharge of “visible foam, or other substances which produce tastes, odors, turbidity or settle to form deposits” should be retained, notwithstanding Glatfelter’s objection to this provision.

23 Procedural Issues

23.1 PADEP Failed to Properly Explain the Decision at hand in Public Notice and Fact Sheet Documents and Failed to Indicate Proceedings that Either Granted or Renewed Variance Decisions

Public notice documents and fact sheets used to inform the public failed to give notice or mention that the decision proposed for the Glatfelter facility was a variance on water quality standard requirements. The failure of PADEP to properly inform the public of the nature of this NPDES proceeding interferes with public participation in making public comment on the variance extension decision at hand.

23.2 PADEP has Failed to Issue a Complete and Detailed Responsiveness Summary on Past Public Comment Periods; this Error Should be Remedied for Past Hearings and a Detailed Responsiveness Summary Should be Provided for this Present Comment Period

Federal regulations at 40 CFR §124.17 require that PADEP provide a written

responsiveness document that shows the response of the agency to public comments that have been made. The regulation requires that this responsiveness summary be issued at the time the permit is issued.

PADEP has not provided a responsiveness summary on comments made in the public hearing in 1997, despite the clear assurances of the hearing officer during the hearing. PADEP is required, however, to respond to all written and oral public comments that were made in both 1997 and 1998 in the required responsiveness summary.

23.3 PADEP's Delay in Permit Renewal Proceedings Constitutes an Abuse of Provisions Allowing Continued Effectiveness of Previously Issued Expired Permits

PADEP's nine year delay in issuing an NPDES permit to Glatfelter constitutes a failure of the agency to carry out its duties under the memorandum of agreement and delegation of authority from the U. S. Environmental Protection Agency. Efforts by PADEP to satisfy every last objection made by Glatfelter do not allow balanced consideration under the statute and adequate protection of the environment. At some point well short of where PADEP ended, the agency should have issued the permit and declared a contested case to bring any additional informal proceedings to an end.

PADEP's practice of allowing a nine year lapse beyond the end date of the prior permit effectively denies the public the right to have an industrial discharger be subject to the latest requirements determined by best professional judgement and by the advancement of federal water quality regulations.

23.4 PADEP Should Not Grant the Glatfelter Request to Allow a Selective Reopening of the Comment Period Only for the Purpose of a Company Response to Public Comments

In various comment documents, Glatfelter has repeatedly asked to be allowed to file comments in response to those comments filed by the public after the close of the public comment period. Our view is that allowing such a practice is an abuse of the public participation rulemaking requirements unless PADEP notices and reopens the entire record for further public comment.

23.5 The Effective Date of the Permit should be Stayed for a Period of 30 Days and PADEP Should Incorporate Procedures Relating to Potential Review of the Permit

Codorus Monitoring Network, Inc has identified serious technical problems, factual issues, unresolved issues of Federal Clean Water Act and federal EPA rules compliance and other serious matters in regard to the proposed Glatfelter permit. If it is the decision of PADEP to go forward and issue a final decision on the proposed permit without resolving the issues that have been identified, Codorus Monitoring Network, Inc. requests, as a public commentor on the proposed permit, that a provision be inserted in the permit that stays the effective date of the final permit action for a period of 30 days.